

Work Order ID 164920

Wednesday, August 09, 2017 2:41:49 PM

164920

Page 1

Item ID: D2665-2 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle, RH, Fwd, Aft, Out
 Start Date: 7/28/2017 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 8/14/2017 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: DAS 21 8-09 Date: AUG 09 2017 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2665	Rev D								

100		2.13							
100	HAAS CNC VERTICAL MACHINING #1								
HAAS I	Memo	1.64				<u>2</u>	<u>Ø</u>	<u>DAS 44 9-09</u>	<u>17-09-05</u>
HAAS CNC vertical machine #1	1- Program batch number2- Machine Step # 1 of Folio and visually inspect as per attached Dimension Sheet 3- Machine Step # 2 of Folio and visually inspect as per attached Dimension Sheet 4- Machine Step # 3 of Folio and visually inspect as per attached								
110		0.00							
110	CONVENTIONAL MILLING MACHINE								
Mill Conv	Memo	0.43				<u>2</u>	<u>Ø</u>	<u>DAS 44 9-09</u>	<u>17-09-05</u>
Conventional Milling Machine	Machine Keyway and inspect per attached dimension sheet								
120		0.00							
120	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.02				<u>2</u>	<u>Ø</u>	<u>DAS 44 9-09</u>	<u>17-09-05</u>
Quality Control									

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By 		
							Lead hand / Supervisor Approval Verification 		
							QC / QA Coordinator Approval 		

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐	☐	Pressure/Forced ☐	☐	Temperature/Cure ☐	☐
Design ☐	☐	Operator ☐	☐	Bending ☐	☐	Set-up ☐	☐
Doc/Data ☐	☐	Offset/Setup ☐	☐	Centre Not Concentric ☐	☐	BOM/Route ☐	☐
Equip/Tooling ☐	☐	Supplier ☐	☐	Cracks ☐	☐	Broken/Damage/Defect ☐	☐
Handling/Pre ☐	☐	Training ☐	☐	Crimp/Kink/Ripple/Wave ☐	☐	Inspection Incomplete/Unqualified ☐	☐
Material ☐	☐	Use for Testing ☐	☐	Cuffs ☐	☐	Contamination ☐	☐
Internal Transport ☐	☐	Poor Information ☐	☐	Crushing ☐	☐	Countersink ☐	☐
Tribal Knowledge ☐	☐	Rushing ☐	☐	Heat Treat ☐	☐	Cut Too Short ☐	☐
LOA ☐	☐	Product Improvement ☐	☐	Wave/Twist in Tube ☐	☐	Instructions Incomplete/Unclear ☐	☐
Substation ☐	☐	Process Improvement ☐	☐	Marks/Chatter ☐	☐	Drill Holes ☐	☐
Past Expiry Date ☐	☐	Manufacturing Process ☐	☐	OTHER : _____ _____ _____			
Misidentified ☐	☐	Past Due ☐	☐				

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Page 2

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.04				2	2		DAS 33 9-89 17/09/07
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.38				2	0		DAS 34 9-89 2017-09-07 JSC
150 *150* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum M 138014 Memo START TIME: 3:25 FINISH TIME: 3:55	0.00 0.33				2	0	17-09-7	DAS 34 9-89

DQA: _____ Date: _____



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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Page 3

Item ID: D2665-2 Accept ***N900040100*** Setup Start ***NS1***
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Start Date: 7/28/2017 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 8/14/2017 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							
160						2	DAS		
QC	Memo	0.02							SEP 14 2017
Quality Control									
170	Identify as per dwg & Stock Location 5402	0.00							
170						2	DAS		
Packaging	Memo	0.02							SEP 14 2017
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
180									17/9/18
QC	Memo	0.20							
Quality Control									

SEP 14 2017

DAS
21
9-88

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Wednesday, August 09, 2017 2:41:48 PM

Page 1

Work Order ID: 164920

164920

Parent Item: D2665-2

D2665-2

Parent Item Name: Saddle, RH, Fwd, Aft, Out

Start Date: 7/28/2017

Required Date: 8/14/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP: C 00.11.01 Removed P/O for Powder Coat - in house process
EC
IPP Rev:D As per Rev D 07-03-19 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6101-003		Manufactured	No			100	Each	47.0000	1	2			
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D6101-003

Saddle Billet, 7075

**

Location

Loc Qty

Loc Code

MAT040

20

161598

20

MAT046

27

162144

7

164095

20

164 404

2

17/09/02 SBL

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD		Work Order: 164920
Description: 206 Saddle, Outboard, Right side		Part Number: D2665-2
Inspection Dwg: D2665 Rev: D DSK: Rev:		Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

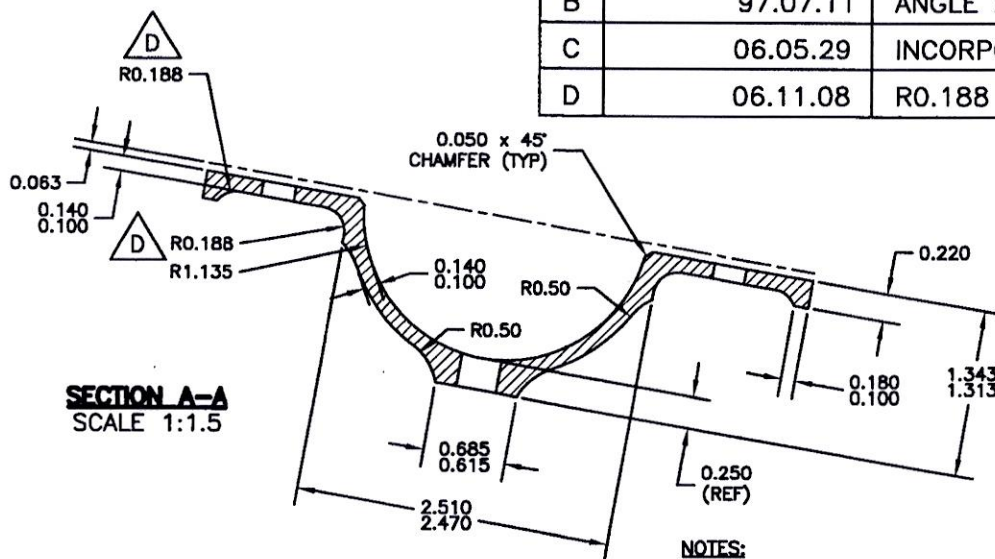
Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
A	0.100	0.140		.119	.120			
B	0.100	0.140		.124	.120			
C	1.125	1.145		1.135	1.135			
D	0.615	0.685		.675	.675			
E	0.240	0.260		.257	.258			
F	1.313	1.343		1.330	1.330			
G	0.210	0.230		.225	.225			
H	0.100	0.180		.130	.130			
I	2.470	2.510		2.493	2.492			
J	1.565	1.585		1.575	1.575			
K	0.235	0.240		.238	.238			
L	0.100	0.120		.113	.113			
M	0.990	1.010		1.002	1.002			
N	0.510	0.515		.511	.511			
O	5.990	6.010		5.998	6.000			
P	1.245	1.255		1.250	1.250			
Q	2.495	2.505		2.500	2.500			
R	0.312	0.318		.313	.313			
S	0.315	0.322		.316	.316			
T	2.495	2.505		2.500	2.500			
U	1.357	1.367		1.362	1.362			
V	0.787	0.807		.796	.795			
W	0.540	0.560		.549	.550			
X	1.674	1.684		1.679	1.679			
Y	0.256	0.262		.258	.258			
Z	0.912	0.932		.922	.924			
AA	0.490	0.510		.500	.500			
AB	0.178	0.198		.188	.188			
AC								
AD								
AE								
DAS Accept/Reject				/	/			

Measured by: 44 DAS 9:39	Date: 17-09-05
Audited by: 33 9:39	Date: 17/09/07
Prototype Approval:	Date:

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	99.04.19	Incorporated DSI 9095, DSI 9102 & DSI 9122 Rev. A	RF	
C	99.11.10	Added Dim. R-T	RF	
D	02.12.12	Reformat; Added Dim. U-W & DT8683, DT8686	KJ/RF	
E	06.07.05	Revised per drawing revision C	KJ/JLM	
F	07.03.21	Revised per drawing revision D	KJ/JLM	
G	12.03.08	Dimension R and Y revised	KJ	M



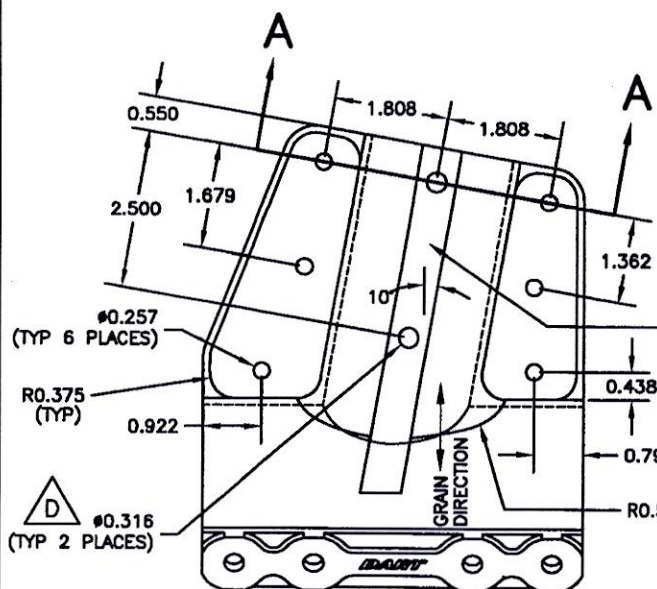
DESIGN	<i>A</i>	DRAWN BY	<i>CB</i>	DART AEROSPACE USA, INC.	
				PORT HADLOCK, WA	
CHECKED	<i>PH</i>	APPROVED	<i>A</i>	DRAWING NO.	REV. D
				D2665	SHEET 1 OF 1
DATE	06.11.08			TITLE	SCALE
				SADDLE FWD OUTSIDE HIGH	1:3
A	97.03.25			NEW ISSUE	
B	97.07.11			ANGLE AND NOTES ADDED	
C	06.05.29			INCORPORATE DEO 9122, 9102, 9095	
D	06.11.08			R0.188 WAS R0.30; $\phi 0.316$ WAS $\phi 0.313$	



RELEASED
07.02.12

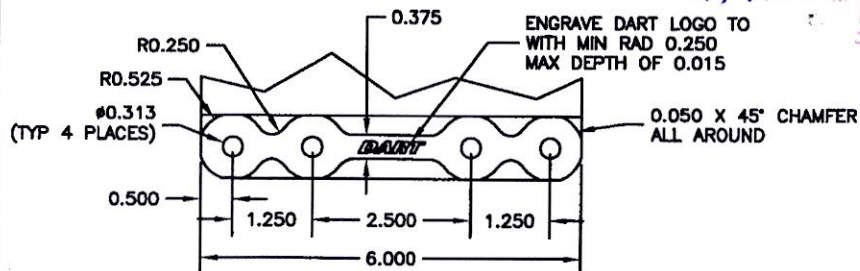
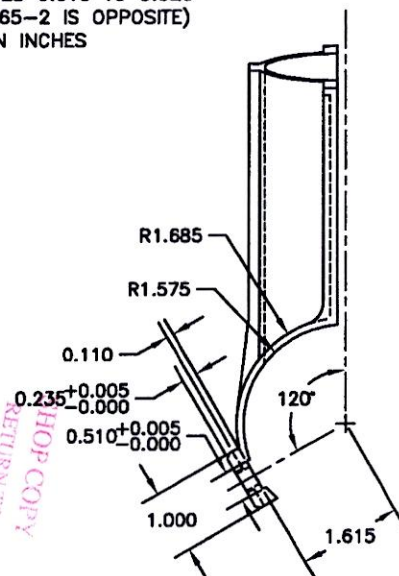
NOTES:

- 1) MATERIAL: ALUMINUM 7075-T7351 (QQ-A-250/12)
(MAKE FROM D6101-003 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 5) D2665-1 SHOWN (D2665-2 IS OPPOSITE)
- 6) ALL DIMENSIONS ARE IN INCHES



ENGRAVE PART
NUMBER AND
BATCH NUMBER
TO MAX DEPTH
OF 0.010 WITH
MIN RADIUS
OF 0.010

NO. 164920
170804
WORK ORDER
SUBJECT TO AMENDMENT
WITHOUT NOTICE
UNCONTROLLED COPY
RETURN TO
ENGINEERING
HOP COPY



D2665-1 SADDLE FWD OUTSIDE HIGH

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